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Epilepsy: Distinguishing Symptoms from the Divine

Alexa Buchin

Introduction

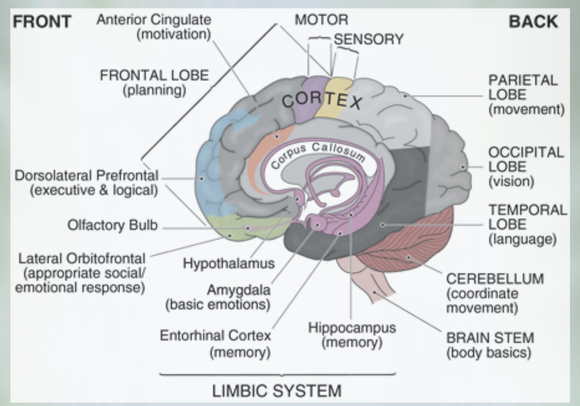
Epilepsy is historically connected with divine or psychotic stereotypes, discouraging epileptics from seeking or receiving the proper medical treatment. Uncovering neurological correlates of religious experience is aimed at separating normal religiosity from hyper-religiosity as a symptom. What neurological correlates with supernatural experience are suggested by studies involving temporal lobe epilepsy, and how does this research help to separate normal religiosity from hyper-religiosity as a symptom?

It is important to draw a line between medicine and religion, and while this line cannot yet be definitely drawn, brain imaging has begun to locate supernatural experience within the brain. I examined the history of epilepsy, finding that the progress of science was hindered by epilepsy through the lens of the church and magical medicine. Other studies found parts of the brain associated with religious/supernatural experience; the temporal lobe, frontal lobe, parietal lobule, superior frontal gyrus, and limbic system have been found to play key roles in this phenomenon.

These findings helped to define Geschwind syndrome, a personality disorder in a subgroup of temporal lobe epilepsy patients. Treatment for epilepsy has become more medically based, but because of stigmas surrounding hallucination and seizures some patients still don't get the treatment they need. The implications of this research are leading to new ways to separate medicine and religion, which will provide a better understanding of the human brain and better treatment for patients with epilepsy and other diseases involving hallucinations and supernatural experiences.

Methods

I looked at scholarly sources in peer-reviewed scientific journals. Experimental studies used fMRI imaging and surveys to obtain results.



(Gaman & Bragdon, 2003)

Results

In ancient times, diseases of all kinds were considered a type of divine punishment or supernatural intervention, and the ineffable qualities of epilepsy perpetuated this belief. Even though the Corpus Hippocraticus was the first to attribute epilepsy to brain dysfunction in the 5th century B.C.E., neurotheology is only now becoming a growing field. Neurology, the study of neurological correlates of religious experience, has yielded the following primary results:

- Gestaut-Geschwind syndrome: personality disorder found in a subgroup of TLE patients having five main symptoms of hypergraphia, hyperreligiosity, aggression, stickiness, and altered sexuality, and seen to be more prevalent in patients with a bilateral focus of seizures and a history of postictal psychosis
- Temporal Lobe: associated with the auditory system, ictal autoscopy, hyper-religiosity or the emotional components of religiosity, and multi-sensory hallucinations
- Frontal Lobe: associated with normal religiosity and religiosity as part of personality, alterations in body perceptions, attention, and activity when reciting and performing religious practices
- Right Angular Gyrus: associated with awareness of the self in space and integration of somatosensory and vestibular information
- Parietal Lobule and Superior Frontal Gyrus: associated with alterations in the sense of self and space
- Limbic System: associated with alterations to reality present in intellectual auras, temporolimbic substrate of ecstatic seizures, and shifting reality leading to deeper mystical interpretation

Results Continued

According to Saver and Rabin (1997), the development of hyper-religiosity can be explained by factors including, "desire for religious solace; a need to explain abrupt, sometimes bizarre seizure experiences (attribution theory); a response to ictal numinous experiences; lesional disruptions of the temporal lobe, giving rise to seizures and hyperreligiosity as independent outcomes; abnormal religious interests arising as products of interictal psychopathology; and seizure-induced alterations and intensification of sensory-limbic integration" (p. 504).

Conclusion

By looking at studies done on epilepsy and related conditions, I find that although religious and supernatural experiences are subjective, they have neurological correlates in the brain. This is important to consider in distinguishing between religiosity and hyper-religiosity as a symptom, because Gesatut-Geschwind syndrome is probably more common in TLE than is currently known, since religiosity is often not considered a medical symptom. Also, scientists have developed a better understanding of the healthy human brain from looking at behavioral and personality changes caused by epilepsy.

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